

to and including *April 3, 2001*. Applicants believe that no other fees are due in connection with the filing of this Response. If the Commissioner determines otherwise, he is hereby authorized to charge any additional fees (including fees for extensions of time) or credit any overpayment to Deposit Account No. 06-1300 (Order No. A-64559-3/RFT/RMS/RMK).

Please amend the above-identified application as follows:

In the Claims:

/ Please cancel Claim 19.

Please amend the claims as follows:

Sub 17
C1
20. (Amended) An apparatus for the detection of a non-nucleic acid target analyte in a test sample, comprising:

a) a test chamber comprising an array of electrodes each comprising:

i) a self-assembled monolayer; and

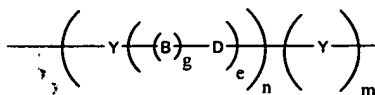
ii) a binding ligand covalently attached to said electrode via a spacer;

wherein said test chamber further comprises at least one second measuring electrode; and

b) a voltage source electrically connected to said test chamber; and

c) an electronic detector.

Sub 17
C2
22. (Amended) An apparatus according to claim 21 wherein said conductive oligomer has the formula:



wherein

Y is an aromatic group

n is an integer from 1 to 50

g is either 1 or zero;

e is an integer from zero to 10;

m is zero or 1;

wherein when g is 1, B-D is selected from acetylene, alkene, substituted alkene, amide,

azo, esters, thiocarbonyls, -CH=N-, -CR=N-, -N=CH- and -N=CR-, -SiH=SiH-, -SiR=SiH-,

-SiR=SiH-, and -SiR=SiR-, -SiH=CH-, -SiR=CH-, -SiH=CR-, -SiR=CR-, -CH=SiH-,

-CR=SiH-, -CH=SiR-, and -CR=SiR-; and

wherein when g is zero, e is 1 and D is preferably carbonyl, or a heteroatom moiety,

wherein the heteroatom is selected from oxygen, sulfur, nitrogen, silicon or phosphorus.

Please add the following claim:

2

7 29. (New) An apparatus according to claim 2, further comprising a processor for data analysis.

In the Specification:

Please replace the paragraph beginning at page 2, line 15 with the following rewritten paragraph:

--In accordance with the above objects, the present invention provides methods of detecting a target analyte in a test sample comprising a redox active molecule and an analyte.

The method comprises applying an input signal to the test sample and detecting a change in the faradaic impedance of the system as a result of the association of the redox active molecule with the analyte.--

Please replace the paragraph beginning at page 26, line 26, with the following rewritten paragraph:

C4 --As will be appreciated by those in the art, a large number of possible conductive oligomers may be utilized. These include conductive oligomers falling within the Structure 1 and Structure 8 formulas, as well as other conductive oligomers, as are generally known in the art, including for example, compounds comprising fused aromatic rings or TEFLON® (polytetrafluoroethylene)-like oligomers, such as $-(CF_2)_n-$, $-(CHF)_n-$ and $-(CFR)_n-$. See for example, Schumm et al., *angew. Chem. Intl. Ed. Engl.* 33:1361 (1994); Grosshenny et al., *Platinum Metals Rev.* 40(1):26-35 (1996); Tour, *Chem. Rev.* 96:537-553 (1996); Hsung et al., *Organometallics* 14:4808-4815 (1995; and references cited therein, all of which are expressly incorporated by reference.--